

ANCHORAGE AMATEUR RADIO CLUB

PRESIDENT - ED BOSCO - WL7BOR - 345-4530

CLUB PHONE: 345-0719

1990 FEBRUARY FEBRUARY FEBRUARY 1990

Feb 2nd General Meeting - Spenard Rec Center, 2020 W. 48th St 7 PM

Program - Microwave In Amateur Radio

Feb 10th/11th Fur Rondy Grand Prix Auto Races

Feb 14th Board Meeting & PM Hope Cottage Mtg Rm 2805 Bering St
Between Benson and Northern Lights

Feb 16thth/17th/18th Fur Rondy Sled Dog Races

Mar 2nd General Meeting

Mar 3rd Start of Iditarod Sled Dog Race

H A M O F T H E Y E A R

— — — — —

Congratulations go to Allan Wintersteen as The AARC Ham of the

Year! Allan, you really deserve it for the fine job you have done
and are doing in building up the Ham community with the youth in
Bethel.

Coming Attractions -

The Windom Antenna via KL7HD

A Member's Personal Profile

AARC General Meeting January 5, 1990

President Ed Bosco, WL7BOR, brought the meeting to order at 7:10 p.m.

Lil Marvin NL7DL, announced that she and Rick Marvin, KL7YF, will be beginning a class in March for anyone interested in the novice or technician class license.

Nancy Brophy, NL7PN, is looking for radio operators for Iditaski, Iditabike and the Special Events Station for Iditarod.

Bill Capers, AL7BB, gave an updated report on the tower ordinance. If the assembly passes the last proposal including the memorandum, then amateurs towers will be covered without extra restrictions. These proposals are scheduled for the January 16 assembly meeting. He also mentioned that Assemblyman Pat Parnell will be sending a letter to each amateur in the Anchorage area.

The nomination of Derek Edmundson, NL7HQ, to the board was approved by a vote of the general membership. He will be replacing Jim Larsen, AL7FS.

The "Ham of the Year" award was voted on and Allan Wintersteen, KL7IEI, a club member who lives in Bethel was selected. Alan taught amateur radio to the school children in Bethel and 18 children passed the novice exam.

The other distinguished nominees were Roger Hanson, KL7HFQ, and the Polar Amateur Radio Group (PARKAS).

The budget for 1990 was submitted and approved by the membership.

Dave Evans, AL7JZ was speaker for the evening. Dave took us away from the chilly temperatures of Anchorage to the tropical island of Pitcairn. Dave has lived on the island and was able to answer all questions regarding the lifestyle there. Dave also informed us that 1990 is Pitcairn's 200th anniversary of the landing of the mutineers of the Bounty. Pitcairn will be celebrating with a Special Event Station as there are five hams on the island. Dave passed out information on how to obtain the special bicentennial award. If you want more information, please contact him.

Meeting adjourned at 9:40 p.m. Submitted by NL7PN, Secretary

Hey! Are you interested in working in Iditarod Headquarters this year??

If so, Contact Cathy Moody-KL7NR at 694-4077.

Another Dish and Spoon got lost at the January meeting. Contact Eric AL7IM at 345-6575 and ID.

AARC Board Meeting, January 10, 1990

Ed Bosco, president, brought the meeting to order at 7 p.m.

The tower ordinance was once again a hot topic of discussion.

Lil Marvin, NL7DL, informed the board that she and Rick Marvin will be teaching novice and technician classes beginning March 20. She requested money from the club for supplies and materials. Motion was passed to provide funds not to exceed \$500 for the purpose of club sponsored amateur radio classes to be taught by Rick, Lil, and others.

Also approved was a motion that each student completing the class will be given a certificate for one year's free membership to the club that can be redeemed by passing a license exam within 90 days of completion of class.

Mark Hadley, KL7HD, reported that he is making progress with his program for a data base for all club property.

Fred Toliver, KL7HM, reported that profits were up in the gaming arena last month, but still can't predict the future until emergency regulations are adopted.

Treasurer Fred Wegner, KL7HFM, reported we still have money in the bank.

Lance Dunbar requested a printer be purchased in order to complete the computer system that he inherited from the packet bulletin board. The board approved the purchase of a printer that would be compatible with the system and needed accessories not to exceed the amount of \$500.

The subject of the club acquiring a clubhouse was brought to the board's attention. After discussion, a committee of Steve Tolliver, Blaine Keener and Fred Wegner was formed to look into the ramifications, costs, and feasibility of finding a permanent clubhouse.

Eric Stewart, AL7IM, suggested that some sort of DX award be established to get more members interested in HF. A local QSO party held once a month will be considered.

Nancy Brophy, NL7PN, reported on the Roy Davie Memorial, and Bill Reiter KL7ITI, will be contacting the family for their input.

Harvey Rookus, NL7DK, will continue as the ARRL assistant director and he is requesting that the state of Alaska have an ARRL director of it's own. Harvey also solicited for news items for the newsletter. He needs news items by the 15th of the month in order to print them in the newsletter.

Meeting was adjourned at 9:00 p.m. Submitted by Nancy Brophy, NL7PN.

Volunteers needed for Iditarod Special Event Station

This year we are asking people to operate the Iditarod Special Events Station from their own station in their home. You may operate by yourself or invite a group of amateurs to work with you. You will be signing up for a block of time (minimum of 2 hour blocks) and you can operate on all frequencies that are within your license. You will need to sign a form and obtain a copy of the MARA Club KL7JFU license in order for you to operate. Please contact Nancy Brophy, NL7PN at 688-3089 (Anchorage) or Eric Sanford (Matanuska Valley) at 892-9078.

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# PITCAIRN ISLAND - BICENTENNIAL 1790- 1990 AWARD

The period of operation to qualify for the BICENTENNIAL AWARD will commence on 1st January 1990, from 0001 UTC, through to 31st December 1990, 2359 UTC.

For each month after January VR6 operators will rotate, using a special call sign VR200PI/ ??.

Applications for the Bicentennial Award or the endorsement sticker should be received by the Award Manager, no later than three months after the close of the net. The basic Bicentennial Award will feature a picture by the world famous painter 'Bryan Moon'. The award will be made available to : - Radio Operators, SWL - Short wave Listeners, Pitcairn Enthusiasts and General. The Gold Endorsement Stickers will be made available to Amateur Radio Operators ONLY.

For those who are interested in obtaining the multicoloured 11in x 14in or 28cm x 35.5cm BICENTENNIAL AWARD - Please send applications with S.A.S.E.

(Envelope size

11in x 14ins

or Number 10).

-To the Award Manager: Dr. G O'Toole - KB6ISL.

9605 San Gabriel Ave.

South Gate, California 90280

U.S.A. Tel. 213 5679562

(With answering machine).

So mark those calendars, for this Historic Bicentennial, and join the fun of speaking to direct descendants of the Mutineers, of heroes you've heard of mentioned!

Help yourself to a memory you'll never forget!

## **RAY - NH6K-SK**

One of the founding fathers of our Club and it's first President has QSY'd to a happier locale. Ray was an inveterate CW op, avid 2 meter user, somewhat of a curmudgeon, an ever helpful Elmer, a principle interface with the CB and sports fishing community, usually prickly in an argument, intensely dedicated to the role of Hams in emergency situations and a good personal friend. I will miss him.  
Aloha es 73.

Ray Beik-NH6K was our contact in the Islands and pushed their using the Repeater AARC sent over there.

Our Thoughts go out to Bob Hisamoto-KL7AM and his family in the tragic loss of a Family member!



## AT LAST! ELECTRICITY EXPLAINED

Today's scientific question is: What in the world is electricity? And where does it go after it leaves the toaster?

Here is a simple experiment that will teach you an important electrical lesson: On a cool, dry day, scuff your feet along a carpet, then reach your hand into a friend's mouth and touch one of his dental fillings. Did you notice how your friend twitched violently and cried out in pain? This teaches us that electricity can be a very powerful force, but we must never use it to hurt others unless we need to learn an important electrical lesson.

It also teaches us how an electrical circuit works. When you scuffed your feet, you picked up batches of "electrons", which are very small objects that carpet manufacturers weave into carpet so that they will attract dirt. The electrons travel through your bloodstream and collect in your finger, where they form a spark that leaps to your friend's filling, then travel down to his feet and back into the carpet, thus completing the circuit.

It's an amazing electronic fact that if you scuffed your feet long enough without touching anything, you would build up so many electrons that your finger would explode! But this is nothing to worry about, unless you have carpeting.

Although we modern persons tend to take our electric lights, radios, mixers, etc., for granted, hundreds of years ago people did not have any of these things, which is just as well because there was no place to plug them in. Then along came the first Electrical Pioneer, Benjamin Franklin, who flew a kite in a lightning storm and received a serious electrical shock. This proved that lightning was powered by the same force as carpets, but it also damaged Franklin's brain so severely that he started speaking only in incomprehensible maxims, such as, "A penny saved is a penny earned". Eventually he had to be given a job running the post office.

After Franklin came a herd of Electrical Pioneers whose names have become part of our electrical terminology: Myron Volt, Mary Louise Amp, James Watt, Bob Transformer, etc. These pioneers conducted many important electrical experiments.

Among them, Galvani discovered (this is the truth) that when he attached two different kinds of metal to the leg of a frog, an electrical current developed and the frog's leg kicked, even though it was no longer attached to the frog, which was dead anyway. Galvani's discovery led to enormous advances in the field of amphibian medicine. Today, skilled veterinary surgeons can take a frog that has been seriously injured or killed, implant pieces of metal in its muscles, and watch it hop back into the pond like a normal frog, except for the fact that it sinks like a stone.

But the greatest Electrical Pioneer of all was Thomas Edison, who was a brilliant inventor despite the fact that he had little formal education and lived in New Jersey. Edison's first major invention was the phonograph, which could be found in literally thousands of American homes, where it basically sat until 1923, when the record was invented. But Edison's greatest achievement came in 1879 when he invented the electric company. Edison's design was a brilliant adaptation of the simple electrical circuit; the electric company sends electricity through a wire to a customer, then immediately gets it back through another wire, then (this is the brilliant part) sends it back to the customer again. This means that an electric company can sell a customer the same batch of electricity thousands of times a day and never get caught, since very few customers take the time to examine their electricity closely. In fact, the last year that any new electricity was generated was in 1937; the electric companies have been merely reselling it ever since, which is why they have so much time to apply for rate increases.

Today, thanks to men like Edison and Franklin, and frogs like Galvani's, we receive almost unlimited benefits from electricity. For example, in the past decade scientists have developed the laser, an electronic appliance so powerful that it can vaporize a bulldozer 2000 yards away, yet so precise that doctors can use it to perform delicate operations to the human eyeball, provided they remember to change the power setting from "Vaporize" to "Delicate"

## 1989 YEAR END REPORT

|             | NOVICE | TECHNICIAN | GENERAL | ADVANCED | EXTRA |
|-------------|--------|------------|---------|----------|-------|
| ANCHORAGE   | 8      | 19         | 13      | 11       | 3     |
| EAGLE RIVER | 2      | 11         | 9       | 4        | 3     |
| FAIRBANKS   | 5      | 10         | 12      | 5        | 4     |
| JUNEAU      | -      | 3          | 1       | 1        | 1     |
| SOLDOTNA    | -      | 7          | -       | 3        | -     |
| WASILLA     | -      | -          | -       | -        | 1     |
| TOTALS      | 15     | 50         | 35      | 24       | 12    |

Total number of applicants 321

| Element    | Pass | Fail | Pass% |
|------------|------|------|-------|
| CODE       |      |      |       |
| 1A(5 wpm)  | 24   | 13   | 65%   |
| 1B(13 wpm) | 34   | 43   | 44%   |
| 1C(20 wpm) | 15   | 59   | 20%   |
| THEORY     |      |      |       |
| 2(Novice)  | 35   | 10   | 78%   |
| 3A(tech.)  | 63   | 28   | 69%   |
| 3B(gen.)   | 41   | 35   | 54%   |
| 4A(adv.)   | 23   | 36   | 39%   |
| 4B(extra)  | 16   | 12   | 57%   |
|            | 251  | 236  | 52%   |

Total (1984 through 1989)

|                  |      |      |     |
|------------------|------|------|-----|
| CODE             |      |      |     |
| 1A(5 wpm)        | 176  | 72   | 71% |
| 1B(13 wpm)       | 230  | 395  | 37% |
| 1C(20 wpm)       | 118  | 337  | 26% |
| THEORY           |      |      |     |
| 2(novice)        | 240  | 42   | 85% |
| 3(tech. & gen.)# | 174  | 171  | 50% |
| 3A(tech)         | 241  | 122  | 66% |
| 3B(gen.)         | 162  | 103  | 61% |
| 4A(adv.)         | 144  | 249  | 37% |
| 4B(extra)        | 87   | 112  | 44% |
| TOTALS           | 1572 | 1603 | 50% |

# Element 3 divided into elements 3A and 3B on March 21, 1987



|                       | CALL   | FROM       | TO            |
|-----------------------|--------|------------|---------------|
| ANCHORAGE             |        |            |               |
| JAY C. FRIESEN        |        | NO LICENSE | NOVICE        |
| GERALD P. HALLGRIMSON |        | NO LICENSE | NOVICE        |
| MICHAEL LIVINGSTON    | WL7BVP | NOVICE     | TECHNICIAN    |
| EAGLE RIVER           |        |            |               |
| RONALD L. COWLES      | AL7JN  | ADVANCED   | AMATEUR EXTRA |
| MELINDA L. TOMAZEVIC  | WL7BVZ | NOVICE     | TECHNICIAN    |
| FAIRBANKS             |        |            |               |
| TIM D. ZOOK           | NL7PL  | GENERAL    | ADVANCED      |
| JUNEAU                |        |            |               |
| SOLDOTNA              |        |            |               |
| WASILLA               |        |            |               |

submitted by Roger Hansen, KL7HFQ, VEC Director)

### FOR SALE

Cleaning house and I have the following items to sell.

Heathkit CW station 80-10 meters.

HX-1681 CW Transmitter

HR-1680 Receiver

HS-1681 Speaker

Full QSK CW

PS-23 Power supply

\$200.00 takes it all...

.....  
 Phone 753-4373 Wk Days     DAVE     NL7MD  
 .....

### **FOR SALE:**

ICOM 471H BASE STATION 430MHz all mode transceiver  
 RF output power of 75 watts, rig is in mint condition and  
 has had very little use. \$550 KL7KI 345-7837 evenings

## HAM Radio School

Novice and Technician Class

## HAM Radio School

Sponsored By

ANCHORAGE AMATEUR RADIO  
CLUB

Beginning: March 20, 1990

Instructors: Lil & Rick Marvin

NL7DL & KL7YF

REGISTER BY CALLING: 277-6741

FEE \$35

REQUIRED STUDENT MATERIALS:

- Code Master Tapes CM-1
- AMECO "Novice Class" Manual  
Catalog #27-01 Copywrite 1990
- Radio Shack "Technician Class"  
FCC License Preparation Manual  
Catalog # 62-2403A
- AMECO "Amateur Radio Theory Course"

The books and code tapes can be purchased at  
the Electronic Supply Center (Radio Shack) in  
Mountain View. Phone 274-0603

Be aware that the Morse code requirement is the biggest  
stumbling block for most aspiring hams! Begin practice now.

Classes to be held at 1030 Denali (corner of 11th and Denali in Marvin's  
garage.) Tuesday/Thursday evenings 7:00 - 9:00 PM Classes will run 10 weeks.

Are you a "Rockhound??" If so contact Harvey-NL7DK at 333-4693



## ANCHORAGE AMATEUR RADIO CLUB

## ROSTER CHANGES

EFFECTIVE JAN. 1, 1990

## NEW MEMBERS

| CALL   | NAME                | ADDRESS              | CITY      | STATE | ZIP   | PHONE                 |
|--------|---------------------|----------------------|-----------|-------|-------|-----------------------|
| WL7G   | KNAPP, GUNNAR       | 1335 SUNRISE DR      | ANCHORAGE | AK    | 99588 | H:274-9117 W:786-7717 |
| KL7BA  | PRESTON, CHARLES M  | POB 240027           | ANCHORAGE | AK    | 99524 | H:344-5164 W:271-2542 |
| KL7JES | PRESTON, KARIN E    | POB 240027           | ANCHORAGE | AK    | 99524 | H:344-5164            |
| NL7NL  | THOMPSON, DOUGLAS C | 12641 LANDMARK CT #3 | ANCHORAGE | AK    | 99515 | H:345-2115 W:277-0211 |

## CHANGES, ETC.

KL7EF ANDRUS, ALAN -- DELETE -- MEMBERSHIP LAPSED  
 AL7ID ANTONUK, JOHN -- DELETE -- MEMBERSHIP LAPSED  
 KL7ICB BAINS-JORDAN, JOHN -- DELETE -- MEMBERSHIP LAPSED  
 KL7BB BALZARINI, BILL -- CHANGE ADDRESS TO POB 772099, EAGLE RIVER; CHANGE HOME PHONE TO 349-5933; ADD WORK PHONE 753-2654  
 AL7JM BENNETT, J. MICHAEL -- CHANGE WORK PHONE TO 762-2249  
 NL7PM BRACALE, CARL -- DELETE -- MEMBERSHIP LAPSED  
 KL7MQ CURMAN, JOYCE -- CHANGE ADDRESS TO POB 1245, DECATUR, GA 30031; CHANGE PHONE TO 404-296-5687  
 KL7CUK DAVIE, LEROY J -- DELETE -- MEMBERSHIP LAPSED -- SILENT KEY  
 NL7GY GEBHARDT, TIM -- DELETE -- MEMBERSHIP LAPSED  
 W7SOV LAPLANTE, PETER J & MARLENE -- DELETE -- MEMBERSHIP LAPSED  
 AL7FG MARSHALL, DIANE -- CHANGE SPELLING OF FIRST NAME TO DIANNE  
 AL7IR MCKENZIE, GUS E -- CHANGE ZIP CODE TO 99516  
 KL7GID MOCKERMAN, EUGENE -- DELETE -- MEMBERSHIP LAPSED  
 KL7CQ MORGAN, WILSE G -- CHANGE ADDRESS TO POB 809, KASILOF, AK 99610; CHANGE PHONE TO 682-581-7310  
 KL7CG NELSON, CARL -- DELETE -- MEMBERSHIP LAPSED  
 KL7EI NELSON, JENNIFER -- DELETE -- MEMBERSHIP LAPSED  
 K0A2Z OKLAND, HOWIE -- DELETE -- MEMBERSHIP LAPSED  
 KL7ON OKLAND, LINDA -- DELETE -- MEMBERSHIP LAPSED  
 KL7GLU PAGE, MARGIE -- DELETE -- MEMBERSHIP LAPSED  
 KL7HIU PAGE, ROBER L -- DELETE -- MEMBERSHIP LAPSED  
 KL7WE PETTIS, TIMOTHY -- CHANGE ZIP CODE TO 99517  
 NL7GE REIFF, LYLE E -- DELETE -- MEMBERSHIP LAPSED  
 AL7LB ROSSER, GIMMIE -- CHANGE LAST NAME TO MORGAN; CHANGE ADDRESS TO POB 809, KASILOF, AK 99610  
 KL7TJ RYAN, MAEVE -- CHANGE WORK PHONE TO 264-0446  
 ----- SANDVIK, DEL -- ADD CALL SIGN: NL7RT  
 WL7ADE SCHMIDT, JEANNE -- CHANGE CALL SIGN TO NL7PF  
 AL7CB SMITH, ROBIN -- CHANGE STREET ADDRESS TO 19332 WAR ADMIRAL RD  
 WB5DNT WHITE, DAN -- DELETE -- MEMBERSHIP LAPSED  
 NL7QL WILLIAMS, MIKE D -- CHANGE SPELLING OF STREET TO SHARON GAGNON LN  
 KL7KU WILSON, T. STANTON -- CHANGE POB TO 100498  
 KL7WQ WISWELL, NORMAN -- DELETE -- MEMBERSHIP LAPSED

## ROSTER CHANGES

EFFECTIVE DECEMBER 1, 1989

## NEW MEMBERS

| CALL  | NAME                     | ADDRESS              | CITY      | STATE | ZIP   | PHONE                 |
|-------|--------------------------|----------------------|-----------|-------|-------|-----------------------|
| NL7OM | BELCHER, COURTNEY        | 38-344 D CHERRY ST   | EAFB      | AK    | 99506 | H:753-4399 W:552-3895 |
| NL7SV | GRIFFIN, DIAN            | 7727 BLACKBERRY      | ANCHORAGE | AK    | 99502 | H:243-2729            |
| NL7PC | MARTIN, SANDY            | 9499 BRAYTON DR #183 | ANCHORAGE | AK    | 99507 | H:344-9216            |
| AL7EG | TABER, JOHN A & LAVONE L | 3605 ARCTIC BL #1685 | ANCHORAGE | AK    | 99503 | H:276-8928            |

## CHANGES, ETC.

WL7BTH EGGLESTON, KEN -- CHANGE CALL SIGN TO NL7SP  
 KL7SA MANEY, RODNEY G -- CHANGE STREET ADDRESS TO 130 SORCERER CT AND ZIP CODE TO 99518  
 KV7Q ROSENTHAL, HERBERT M 'HERB' -- CHANGE CALL SIGN TO WJ5Q

## IRS GIVES RULING ON MARS EXPENDITURES

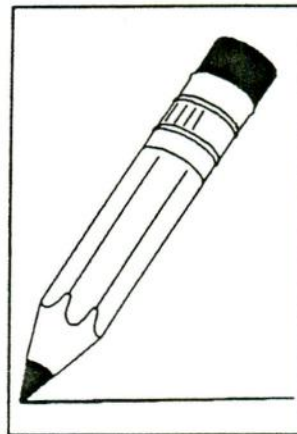
Reprinted from Navy-Marine Corps MARS Message

Unreimbursed out-of-pocket expenses incurred by MARS members in operating their radio station are contributions or gifts within the meaning of Section 170(C) (1) Of the Internal Revenue Code of 1954 and are deductible subject to limitations set forth in Section 170(B) (1) (B) of the code.

Section 1.170-2(A) (92) of the income tax regulations provides, in part, that no deduction is allowable for contributions of services. However, unreimbursed expenditures made incident to the rendition of services to an organization, contributions to which are deductible, may constitute a deductible contribution.

A member of MARS, while performing voluntary services for MARS, is rendering gratuitous services for the use of the United States within the meaning of Section 170(C) (1) of the code. Accordingly, subject to the limitations, the unreimbursed expenses (out-of-pocket) incurred by the taxpayer (MARS Member) for operation, maintenance and repair of their radio equipment which are directly attributable to the performance of such voluntary services are deductible. No deduction is allowed however, for a proportionate share of the general maintenance or repair of the equipment or for a fair rental value of such equipment or for the depreciation occasioned by such use of the equipment in performing the voluntary services for MARS.

Some filing suggestions include: Calculation of the electric power used by equipment for MARS operations from your MARS log to determine hours of operation per year and would also include power consumed for lighting and operation of auxiliary test equipment; round trip mileage plus tolls for attendance at MARS meetings and would include motel charges and meals where appropriate. Remember, always get receipts. If you maintain a rig for exclusive MARS operation, maintenance expenses are then deductible. This would apply to any "MARS ONLY" equipment. Whatever deductions you make, be sure to keep a copy of how you calculated the deduction, what justification you used, and any receipts that are applicable.





## TINKER'S CORNER

CAUTION: MODIFICATIONS PUBLISHED IN THE TINKER'S CORNER ARE SUBMITTED BY AFFILIATE MEMBERS AND ARE PRINTED AS RECEIVED IN MOST INSTANCES. THESE MODIFICATIONS HAVE NOT BEEN CHECKED FOR COMPLETENESS NOR ACCURACY. RESULTS CANNOT BE GUARANTEED. MEMBERS SHOULD EXERCISE CAUTION WHEN EXPERIMENTING AND DO SO AT THEIR OWN RISK. NEITHER THE COMMUNICATOR NOR USAF MARS IS RESPONSIBLE FOR DAMAGED EQUIPMENT AS A RESULT OF THIS COLUMN.

By Robert Du Brul, AFA3FH

Much has been written in the trade journals, ham magazines, technical handbooks, etc., about coaxial cable and the advantages of using "Mil-Spec" grades instead of the so-called "commercial" grades. It seems to me that based on the questions I have been asked, and comments I have overheard, another session is in order.

Transmission line is the medium by which RF energy is brought to the antenna from the transmitter and, conversely, from the antenna to the receiver.

Attenuation in the transmission line causes a reduction in the signal strength to and from the antenna. Transmission line loss can make it "difficult to impossible" to make and/or maintain contact with a weak or very weak station. Using the best transmission line suited to your situation will give optimum results, whereas using a high-loss line can be likened to running your car's engine on kerosene and mothballs!

For those who use coaxial cable, consider the following when making your purchases: RG58U, RG59/U and RG8/U were taken off the Mil-Spec list years and ago and classifies as "commercial" coax. RG8/U has not met military specifications since the fall of 1969! Individual manufacturers now produce their own versions of these cables which are not a good value sometimes. The braid (outer shield) coverage has been reduced to the bare minimum, thereby reducing the shielding capabilities. The reason for this is the high cost of copper used for the braid. Inadequate shielding results in unacceptable RF leakage causing RFI, TVI or as in one known instance, SMI-sewing machine interference, even at relatively low frequencies and power levels. When these cables are used at higher power levels and frequencies, the problem becomes even more significant.

Another aspect of the transmission line consideration is foamed dielectric coaxial cables. Manufacturers' specifications would seem to indicate that the coax with foamed insulation is better than coax with the solid dielectric. Foamed coax has a higher velocity factor and less loss when compared with the solid types. However, many of the foamed insulation coaxial cables are not impregnated with inert gas and moisture accumulates in the air bubbles. The moisture, in turn, changes the velocity factor, alters the characteristic impedance, and increases attenuation in the transmission line. Foamed insulation coaxial cable is also more susceptible to physical damage at bending points.

Still another factor for consideration is that most, although not all, of the coaxial cables of the "commercial" grades use an outer jacket of the contaminating variety. What this means is that these jackets (referred to as Type I), have a plasticizer (extender) incorporated during the manufacturing process to improve cable flexibility. However, the extender migrates through the shielding braid and attacks the dielectric surrounding the center conductor. The insulation deteriorates and RF losses increase. The lifespan of this kind of coaxial cable is anywhere from one to two years from the date of manufacture before the losses become excessive.

Outer jackets of the non-contaminating variety are referred to as Type II jackets and do not have a plasticizer, nor do they suffer the pitfalls of the Type I jackets through ultraviolet deterioration. The types of coaxial cables using the Type II jackets commonly used by hams are RG58C/U, RG59B/U, and RG213/U (formerly called RG8A/U). RG213/U has a service life of 15-20 years and may be buried for underground installation.

With all things considered, it would be a much better investment of your time and money to use the Mil-Spec grades of coaxial cable.

My thanks to all those who have tackled this topic previously, and whose efforts are reflected here, especially W6DDB.



ANCHORAGE AMATEUR RADIO CLUB, INC.  
Post Office Box 101987  
Anchorage, Alaska 99510-1987

Address Correction Requested

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TEN TEC

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BP-51

**KL7AA**

ANCHORAGE AMATEUR RADIO CLUB

**CONTEST CONTACT**

BILL BALZARINI

ROGER HANSEN

**KL7BB**

**KL7HFQ**

SMIRK 3493

P.O. BOX 772099

EAGLE RIVER, ALASKA 99577

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